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## (WO/2002/075650) HARDWARE DESIGN USING EVOLUTION ALGORITHMS

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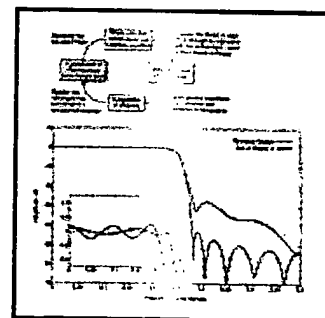
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**Abstract:** The design of a hardware component such as a digital filter can be optimised by taking an initial population of filter designs and encoding them as chromosomes. The fitness of each chromosome is then evaluated and parent chromosomes are then selected based on the fitness criteria. Offspring chromosomes are then generated using genetic operations such as mutation and crossover from the pool of offspring, and optionally parents, individuals are selected to survive using a combination of Pareto fronts based on non-dominated individuals and clustering. The process is repeated or until a termination criteria is satisfied.



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